BOOK

11702 - 11776

$10.00 REWARD
for return to
Arthur Cronquist
New York Botanical
Garden
Bronx, New York 10458
U.S.A.

Scientific data, of
no commercial value

11702 - 20 Sept. 1980
San Juan Co. Utah
In very sandy soil with
Oryzopsis hymenoides
and scattered junipers,
ca 8. km. north of
~~Mt. Tenille~~ Fa Sal.

Stems 1-several, 2-8 dm. tall
Rays blue-lavender, (16-)
17-19(~~[illegible]~~) (-25),
~~[illegible]~~ 9-15 mm
long.
Disk yellow
Machaeranthera linearis
Greene

Machaeranthera (8) v. 604

11703 - 20 Sept, 1880.
San Juan Co. Utah.
Same place as 11702
Flowers 5 (6) per head;
~~lavender~~ ligules 8-10
mm long, lavender.

Stephanomeria exigua Nutt.

Lygodesmia Stephani (5)

11704 - 20 Sept. 1900
San Juan Co., Utah.

Same places 11702.
Rays (6-) 8-10 (-13),
1.5-3.5 cm long, yellow.
Lobes of the disk-corollas
dark reddish. Disk
only sparsely and
rather inconspicuously
white-bearded in the
middle.

Helianthus petiolaris Nutt.
subsp. fallax Heiser ✓

Helianthus (7)

11705-24 Sept. 1980.
Chihuahua, Mexico.
In pine-oak woods along a major ridge-crest in the Sierra Tarahumara section of the Sierra Madre Occidental, ca. 18 km. by road northwest of the Cascada de Basaseachi.
Elev. ca. 2100 m.
Plants freely stoloniferous. Rays 20-40, 5-8 mm long, ca 1.5 mm wide, white. Disk yellow.
Rhyolitic substrate

Achaetogeron affinis A. Gray

Achaetogeron (10)

Lorentz, W. The lessons of the dust bowl. American Scientist 66: 560-569. 1978.

Agriculture on the Great Plains is still not secure.

Werner, D., ed. The biology of diatoms. Bot. Monogr. 13. 498 pp. Univ. Calif. Press. 1977. (A symposium)

Brodie, Harold J. Fungi: Delight of Curiosity. 131 pp. Univ. Toronto Press. Toronto. 1978.

(To search)

Burris, R. H., ed. Future of biological $N_2$ fixation. Bioscience 28:563-572. 1978.

Harris, David R. The origins of agriculture in the tropics. Amer. Scientist 60:180-193 1972.

Ancient vegetation in all 3 continental tropical lowlands. Ecologically stable, localized, nutritionally unbalanced, not suited to territorial expansion. Seed-culture systems arose in drier tropics and warm-temperate regions, are inherently unstable & expansive. Beginnings of seed-crop culture 10,000 BP in Southwest Asia. Maize, Sorghum probably

Thimann, K.V. Hormone action in the whole life of plants. 445 pp. Univ. Mass. Press. 1977.

(to seek)

Farley, J. 1977. The spontaneous generation controversy from Descartes to Oparin. 225 pp. Johns Hopkins Univ. Press. 1977.

(scholarly)

Hardin, G. 1977. The limits of altruism: An ecologist's view of survival. 154 pp. Indiana Univ. Press.

Portugal, F.H., & J.S. Cohen. A century of DNA: A history of the discovery of the structure and function of genetic substance. 384 pp. 1977. MIT Press

Harte, John & Robert H. Socolow. 1971. Patient earth. 364pp Holt, Rinehart, and Winston

(Environmental)

Swain, Tony, ed 1972 Plants in the development of modern medicine. 367pp. Harvard Univ. Press.

(Interesting symposium)

Ponnamperuma, C. 1972.
The origins of life. 215 pp
Dutton.

"designed for the layman
or the beginning student".

Hutchinson, G. E. 1973.
Eutrophication. American
Scientist 61:269-279.

(also by another)

Ledbetter, M.T.; Porter, K.R. Introduction to the fine structure of plant cells. 1970.

(Beautiful electron micrographs).

Hadley, Neil F. Desert [illegible] and adaptation. American Scientist 62:[illegible] 1974.

(Interesting and readable)

Salisbury, F. B. 1971.
The biology of flowering.
173 pp. Natural History
Press.

(Contains instructions for
do-it-yourself experiments.)

Faegri, K., & L. van der Pijl.
The principles of pollination
ecology. 2nd. ed. 512 pp.
1972. Macmillan.

Scholander, P.F. Tensile water. American Scientist 60:584-590. 1972.

Fruton, Joseph S. ~~1972~~.
Molecules and life; Historical essays on the interplay of chemistry and biology. Stanford, Wiley-Interscience
1972

Pomeranz, Y.

From wheat to bread: A chemical study. American Scientist 61: 683-691. 1973.

Thomas, Lewis. Lives of a cell. Notes of a biology watcher. 153 pp. Viking Press. 1974.

Good, thought provoking reading.

Grant, Verne. ~~1975~~
Genetics of flowering plants
314 pp. Columbia Univ.
Press. 1975

Miller, Stanley L., &
Leslie E. Orgel. ~~1974~~.
The origins of life on
earth. 229 pp. Prentice-Hall
1974
For the serious student

Whaley, W. G. ~~1975~~.
The Golgi apparatus.
Cell Biology monographs.
vol. 2. 140 pp. Springer-
-Verlag. 1975

Simmonds, N. W., ed. ~~1976~~.
Evolution of crop plants.
339 pp. Longman. 1976

A crop-by-crop symposium

Mayr, Ernst. ~~[illegible]~~
Darwin and natural selection.
American Scientist
65: 321-327. 1977.

(D's autobiography refers to reading Malthus in Sept. 1838)

Torrey, John G., &
Lewis J. Feldman.
The organization and
function of the root apex.
American Scientist 65:
334-344. 1977.

Solbrig, O. H., &
Gordon H. Orians.

The adaptive characteristics
of desert plants.
American Scientist.
65: 412-421. 1977.

Esau, Katherine, ~~1977~~
Anatomy of seed plants.
2nd ed. 550 pp.
Wiley 1977

Ainsworth, G C. ~~1976~~
Introduction to the
history of mycology.
359 pp. Cambridge Univ
Press. 1976

Good reading, scientifically
accurate

Shine, Ian, & Sylvia Wrobel. ~~1976~~ Thomas Hunt Morgan: Pioneer of genetics. 159 pp. Univ. Press of Kentucky, 1976.

Hinckle, Peter C., & Richard E. McCarty. ~~1978~~. How cells make ATP. Scientific American ~~238:104-123~~. 238(3):104-123. 1978

Heslop-Harrison, Yolande.
~~1978.~~ Carnivorous plants.
Scientific American
238(3):104-115. 1978

Woodwell, George M. ~~1978.~~
The carbon dioxide question.
Scientific American
~~238~~ 238(1):34-43. 1978

330 ppm in 1978
~~290~~ 290 in 1850

Mayr, Ernst B. ~~1978~~.
Evolution. Scientific
American 239(3): 47-55, 1978
(An introduction to an
issue of Sci. Am. devoted
to evolution.)

to cite, certainly.

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Butler, Jonathan E, and
Aaron Klug. ~~1978~~ 1978.
The assembly of a virus.
Scientific American 239(5):
62-69. 1978.
The ~~m~~ RNA core and the
protein sheath "come together

spontaneously but in a way that is unexpectedly complex."

Brill, Winston J. 1978
Biological clocks.
Scientific American 236(3): 68-81.
1978

Walsby, A. E. ~~1977~~.
The gas vacuoles of
blue-green algae.
Scientific American
237(2): 90-97. 1977

regulate buoyancy.

Harlan, Jack R. ~~1976~~,
The plants and animals
that nourish man.
Scientific American
235(3): 89-105. 1976.

Nei[illegible]

Lima bean in S. Am.
Sieva bean in Mexico
Rice in Asia
Africa cpm of Rice in Africa
Cotton: 1 sp in India or Africa
1 sp in S. am.
1 sp in Mexico am.
Squash (5 spp) Mexico & Argentina
Cucurbita (5 spp) " "
Yam - 1 sp in West Afr.
1 sp in S. Asia
1 sp in Polynesia
Radish - varies independently in Japan, Indonesia, India & Europe

Millions of metric tons

wheat 360

rice 320
maize 300
potato 300
Barley 170
sweet potato 130
Cassava 100

wheat - Near East, ±
primitive wheat to 9000 BP.
Maize to 7-8000 BP.
Rice - China beans to 7000 +

Campbell, ~~Allan~~ M. ~~1976~~

[illegible] viruses insert their DNA into the DNA of the host cell. Scientific American 235(6): 103-113. 1976

Stoeckenius, ~~Walther~~ ~~1976~~. The purple membrane of salt-loving bacteria. Scientific American 234(6): 56-57 1976

Rhodopsin, the "visual purple" of animal eyes,

in the light receiving pigment of Halobacterium halobium.

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"Structural backbone and main permeability barrier of cell membranes is a bilayer of lipid molecules. Protein molecules are inserted at various sites in the bilayer, and it is primarily the proteins that mediate the various functions of the membrane such as selective phosphorylation, transport into and out of the cell of large molecules such as sugars and amino

acids and the pumping activities that bring cations out against electrical and concentration gradients; specific proteins and groups of proteins constitute peripheral sites in the membrane. The structural complexity arising from the presence of many different proteins and their particular properties make it hard to analyze the cell membrane

Maniatis, Tom, and
Mark Ptashne 1976.
A DNA operator-repressor
system. Scientific
American 234(1): 64-76,
1976

Berg, Howard C. 1975.
How bacteria swim.
Scientific American
233(2): 36-44. 1975

"rotate rigidly like propel-
lers - driven by a reversible
rotary motor at the base."

Stein, G. S., J. ~~[illegible]~~
S. ~~[illegible]~~ Stein and L. ~~[illegible]~~ J.
Kleinsmith ~~[illegible]~~
Chromosomal proteins and
gene regulation.
Scientific American
232(2):47-57. 1975.

"Apparently the histones
keep the genes turned off
and the nonhistone proteins
selectively turn them on."

Histones" are proteins
with a positive charge,
enriched in the basic amino
acids arginine and lysine
and completely lacking in
the amino acid tryptophan."
Histones "may be regulatory,
in a nonspecific sense"

"whereas histones and DNA
appear to constitute
permanent components of the
genome, the ~~non~~ nonhistone
chromosomal proteins are
at least partly in a state of
dynamic flux."
"In contrast to histones,

"The membranes exhibit a tremendous amount of heterogeneity..."

Satir, Peter. ~~[illegible]~~
How cilia move.
Scientific American 231(4):
45-52. 1974
"The cilia bear where the membranes, powered by ATP, slide past one another."

Govindjee & Rajini Govindjee.
~~1974.~~ The absorption of light in photosynthesis, Scientific American 231(6):68-82. 1974

Mazia, Daniel ~~1974.~~
The cell cycle. Scientific American 230(1):55-64.
1974.

Denison, William C. 1973.
Life in tall trees. Scientific American 228(6):74-80
1973
An ecosystem approach
consider emphasis

Sutherland, E. W. 1972.
Cyclic AMP. Scientific American 227(2):97-105. 1972

Temin, Howard M. 1972.
RNA-directed DNA synthesis. Scientific American 226(1):24-33. 1972

Fox, C. F. ~~Fred~~. ~~1972~~.

The structure of cell membranes. Scientific American 226(2): 30-38, 1972

"the lipids found in membranes are amphipathic, meaning that one end of the molecule is hydrophobic ... and the other end hydrophilic ..."

The hydrophilic region is polar, capable of carrying an ionic charge; the hydrophobic region is nonpolar.

Most membranes are composed of phospholipids, the P in the polar end

Phospholipids in 2 ll layers, the polar heads forming the outer surface, the non-polar tails directed inward

Bauddiagram, much preferred, ch. 1, p. 36

Vesicular outlines / protein molecules to move substances from one side of membrane to another

Dickerson, R. ~~[illegible]~~ E.
~~1972.~~ The structure and history of an ancient protein. Scientific American 226(4): 55-72.
1972
Cytochrome c.

---

Fritts, H. C. ~~1972.~~
Tree rings and climate.
Scientific American
226(5): 92-101.
1972

Coles, D. M. 1971

The flow of energy in the biosphere. Scientific American 225(3):88-100, 1971

An accounting of fiber forest plants absorbed 41/170 of light reaching earth but 39/41 reflected light never finished, leaving only 2/170 to power photosynthesis

Somewhere calculation, 5.37% of light received

solar radiation, and 10%
of visible light reaches
upon leaves.

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an individual leaf will
absorb some 60% of the
total incident sunlight
a dense corn crop may take
up 70%

a crop of sunflowers
at Davis ~~crop~~ of pod
will absorb 37% of total
incident solar radiation,
and 67% of visible radiation
Barley sometimes 64%
of visible, but general
predictability much lower

On an average basis, the [illegible] field [illegible] of [illegible] [illegible] [illegible] [illegible] A [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

---

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [

Isagzioth, Alexander ~~1977~~. Genetic and translational capabilities of the mitochondrion. Bioscience 27: 18-23 1977

Botkin, Daniel B ~~1977~~ Forests, lakes, and the anthropogenic production of carbon dioxide. BioScience 27: 325-331 1977.

usually it does increase photosynthesis when CO2 up to 3-12 times ambient

12 [illegible]

Another set of figures on energy conversion by photosynthesis

1.3 to 1% total insolation during the growing season is converted into corn (total) and 0.4 to 0.6 corn grain

Can be much extra $CO_2$, but not to 5-10 times

Radmer, ~~Richard~~, + ~~Bessel~~ Kok. ~~1977~~. Photosynthesis: Limited yields, unlimited dreams. Bioscience 27: 599-605, 1977

Epstein, Emanuel, ~~1977~~. The role of roots in the chemical economy of life on earth. Bioscience 27: 763-767. 1977

Taylorson, R.B., & S.B. Hendricks, ~~1976~~. Aspects of dormancy in vascular plants. Bioscience 26: 95-101. 1976

Christensen, Clyde M. ~~1975~~. Molds, mushrooms, and mycotoxins. 264 pp. Univ. Minnesota Press. 1975

Informative, entertaining — nontechnical, & authoritative

Cohen, J. ~~Joel~~ E. ~~1976.~~
Irreproducible results and the breeding of pigs (or nondegenerate limit random variables in biology). BioScience 26: 391-395. 1976

Whimsical but mathematically sound iconoclasm.

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Stab, Gary & Janet. 1976.
~~Conservation, variation & Their role in the regulation of gene expression~~
~~BioScience 26: 488-498.~~

Symbiotic $N_2$ fixation in warm-climate tropical grasses, including maize, sugarcane, rice

Azotobacter for transpiration, others?

Banks, H. 1975.
Early vascular land plants: proof and conjecture.
Bioscience 25: 730-737.

1975.

Gantt, E. ~~Elizabeth~~. 1975.
Phycobilisomes:
Light-harvesting pigment
complexes. BioScience
25: 781-788. 1975.

phycobilins as principal
accessory pigments in red
blue-green and ~~[illegible]~~
cryptophyte algae.

peak absorption at 540-565
for phycoerythrin,
610-640 for phycocyanin
and ca. 650 for allophycocyanin

phycobilisomes are located on

thylakoids of the
photosynthetic bacillus,
40 nm diameter,
= 2 ribosomes in width.

energy goes from
phycoerythrin to
phycocyanin to
allophycocyanin to
bacteriochlorophyll.

Shen-Miller, J. & R. R. Hinchman. ~~1974.~~ Gravity sensing in plants: A critique of the statolith theory. Bioscience 24: 643-651. 1974

Amyloplasts as statoliths are only part the story. Still don't know how their fall stimulates a response, and in numerous cases they are not necessary for geotropism. Maybe the extra supply of $CH_2O$

Bryan, J. H.

Microtubules.

Biosciences 24:701-711.
1974

long, straight cylinders,
diameter 24±2 nm,
hollow core 19 nm,
walls composed of globular
particulate

Involved in a variety
of processes including
chromosome movements
during mitosis,
development and maintenance
of cell ~~[illegible]~~ form,

Transport of material

within the cell, and ciliary and flagellar motility.

Loach, Thomas H. 24 in Bertel, 1974

---

Jensen, William A. ~~1973~~ Fertilization in flowering plants. Bioscience 23: 21-27. 1973

Allen, George S. & John H. Dennis. ~~1970~~. The life history of the Douglas fir. Environment Canada, Forestry Service

Lowd, William M.

Rate of light in chloroplast movement. Biochemica 28: 279-296, 1973

Sadler, Ruth L., and William Gordon. 1973. Leaf movements: Kinetic stress of plant behavior? Biotropica 28: 407-416. 1973.

Evans, M[illegible] ~~1973~~
Rapid stimulation of plant cell elongation by hormonal and non-hormonal factors.
Bioscience 23: 711-718.
1973

Hacskaylo, E[illegible] ~~1972~~.
Mycorrhiza: The ultimate in reciprocal parasitism?
Bioscience 22: 577-583.
1972.

[illegible] A Bryant, a German botanist, [illegible] suggesting that the mycorrhizal fungus

absorbs nutrients from
the soil and water from
the soil and transports
them into the root. The host plant
supplies simple
carbohydrates to the fungus.

"mycorrhizal associations
in natural habitats are
the rule rather than the
exception."

Harley, J. L. 1969.
The biology of mycorrhiza.
2 nd. ed. Leonard Hill Books.
London. 334 pp. 1969

Epstein, E. 1972.
Mineral nutrition of plants: principles and perspectives. Wiley. New York.
412 pp. 1972
High-level presentation.

Stent, Gunther S.
1971. Molecular genetics:
An introductory narrative.
Freeman. San Francisco.
650 pp. 1971

Intermediate, [illegible]
[illegible], and [illegible].

A
Burris, R. ~~Robert~~ H., and [illegible]
1978. Future of biological
$N_2$ fixation. Bioscience
28: 563-592. 1978.
A symposium of 5
articles by different
authors.

Note: Gunnera has intracellular N-fixing modified Nostocella in glands at the leaf base.

N-fixing actinomycetes (not listed in app 1)

Betulaceae
Casuarinaceae
Rhamnaceae
Rosaceae
Myricaceae
Leguminosae
Elaeagnaceae

also a rhizobium like one in Parasponia parviflora (Ulmaceae)

Cooke, Robert. 1977.
The biology of symbiotic fungi. Wiley.
New York. 282 pp. 1977
Textbook style, assumes some knowledge of mycology.

Wiebe, Hermann H. 1978.
The significance of plant vacuoles.
BioScience 28:327-331.
1978
Vacuoles essential for extend protoplasm and facilitate extended

contact with sources of
many materials.

Cleland, ~~Charles~~ F.
~~1978~~,
The flowering enigma.
Bioscience 28: 265-269,
1978.
may be a balance
among inducers and inhibitors.

Wodehouse, ~~Harold~~ W. ~~1928~~. Senescence processes in the life cycle of flowering plants Bioscience 28:25-31. 1978.

Day, ~~Peter~~ R. ed. ~~1977~~. The genetic basis of epidemics in agriculture. Ann. New York Acad. Sci. Vol. 287. ~~New York~~. 1977 ~~Symposium~~

Rossmann, H. ~~[illegible]~~ in 1975.
The mentally ill and their
friends. Wayne State Univ.
Press Detroit. 222 pp.
1976.
Readable, non technical but
informative.

Evans, L.T. & W.A. Benjamin.
1975. Strength
and the Elderly. Lippincott.
153 pp.

Evans, L. T. ~~1975~~
Daylength and the flowering of plants. 122 pp. W. A. Benjamin, Menlo Park, Calif., 1975

Outstanding but selective rev. [illegible] not useful for specialists.

Smith, C. U. M.
~~[illegible] 8, 1976.~~
The problem of life. An essay in the origins of biological thought. 343 pp. Oxford Press (Wiley). New York. 1976

([illegible] I took it from Jenkins - crossed out.

Sayre, A. ~~1975~~
Rosalind Franklin and DNA
W. W. Norton, New York.
231 pp. 1975

~~The discovery a~~
A different view of
the events leading to the
discovery of the double
helix.

Meylan, B. A., &
B. G. Butterfield. 1972.
Three-dimensional
structure of wood.
Chapman & Hall, Ltd.
London.

Nothofagus solandri
var. cliffortioides

AK 647 MY

SD.6

11706 24 September, 1902
Chihuahua, Mexico.

Lamplaw #11705.
Stem, weak, solitary from a
~~[illegible]~~ short
oblique caudex.
Heads 1-several, yellow
Rays nearly ~~8-10~~ 8-11,
1.3-3 cm long
~~compressed quadrangular,~~
~~glabrous, without pappus,~~
~~[illegible]~~
flattened, narrowly winged,
without pappus

neutral

Verbesina callilepis Blake

11707 24 Sept. 1915
Chihuahua, Mexico.
Same plant as 11705
from solitary base a
short, stout rhizome —
Leaves. Flowers mostly
4-6, white.

Cacalia decomposita A. Gray

Cacalia (3)

1768-24 Sept. 1950.
Chihuahua, Mexico. In open
pine-oak woodland. Shallow
calcareous near the crest
of major ridge in the
Sierra Tarahumara
[illegible] Sierra Madre
Occidental, ca. 18 km. [illegible]
and southwest of the
Cascada Basaseachi.
Elev. ca. 2100 m. Stems solitary
or 2-3 together, slightly
glaucous. Flowers
scarlet.

Penstemon wislizenii
(A. Gray) Straw
det. N. H. Holmgren

11709 24 Apr. 19[illegible]
Coahuila. Mexico.
[illegible] 11709.
Ultraviolet Rays
S. B. [illegible] Chet.

Melampodium perfoliatum
(Cav.) H. B. K.

melampodium (3)

-24 Sept. 1900.

Chihuahua, Mexico,

Same plant as 11703. Stems several from a rather large, very hard, deep-seated caudex. Involucres tending to be anthocyanic distally, ~~[illegible]~~ + leaves 10-12 per head, light yellowish, with a touch of green.

Brickellia betonicaefolia A. Gray

(5)

[illegible] - 27 Sept. 1970
Chihuahua, Mexico: Co[illegible]
-Apolitic cliffs and banks
in pine-oak woods along
a major ridge crest in
the Sierra Tarahumara
adjacent to the Sierra Madre
Occidental, ca 8 km by
road northwest of the
Cascada de Basaseachi.
Elev. ca. 2100 m. Plants
perennial. Rays white,
ca 75-105, less than 1 mm
wide. Disk yellow.
ca 8 mm long.

Erigeron delphinifolius Willd.
subsp. neomexicanus (A. Gray) Cronq.
var. oreophilus (Greenm.) Cronq.

11712 20 Sept. 1980
Chihuahua, Mexico. In thin soil on rocky (rhyolitic) outcrops in pine-oak forest along the crest of a major ridge in the Sierra Tarahumara section of the Sierra Madre Occidental, ca. 18 km. by road north-west of the Cascada de Basaseachi. Elev. ca. 2100 m. Plants aromatic. Used locally to brew a tea to treat stomach ailments. [illegible]

Chenopodium graveolens
Lag. & Rodr.

Chenopodium (3)

U 713 24 Sept 1910
Charles Kelly

Top of rocky knob on hydrothermally altered substrate in pine-oak woods near the summit of a spur ridge in the Sierra Nevada section of the Sierra Madre Occidental, ca 17 km by road northwest of the Cascada de Basaseachi, Chih., 2100 m. Plant single-stemmed from large, stout, fleshy-fibrous taproot. Rays 8-25, slender, 3-5 cm long, 1-1.5 cm. wide, ± or less flat, narrowed

Iostephane heterophylla
(Cav.) Hemsl.

Iostephane heterophylla
5, including (Robt.), 1884,

[illegible] 24 Sept 1933
Chihuahua Mexico
Distributed generally
[illegible] [illegible] [illegible]
the wooded pine oak
[illegible], cab. on north
[illegible] [illegible] of the
[illegible] be [illegible], in
the Tarahumara section of
the Sierra Madre Occidental
Chihuahua. 2000 m. [illegible]
annual herb about
[illegible] [illegible]
flowers yellow. 23-29
per leaf

Hymenothrix palmeri A. Gray

[illegible] - 24 Sept. 1910.
Chihuahua, Mexico. In thin soil on rolling rhyolitic outcrops in pine forest zone, ca 5 km. by road east of the Cascada de Basaseachi, in the Tarahumara section of the Sierra Madre Occidental. Elev. ca. 2000 m. Plants perennial with 1 several stems; rhizome slender, 12-16, 10-17 mm long, 3-4 mm wide, receptacle naked.

Xanthocephalum megalocephalum
Fern.

Vouchers (9)

1171 [illegible] 25 [illegible]
[illegible] plant, each [illegible]
[illegible] [illegible]
Tarahumara [illegible] of the
[illegible] Sierra Madre Occidental,
ca. 5 km. [illegible] of
Moyahui, and ca. 20 km.
southwest of the Cascada de
Basaseachi. Elev. ca. 2200 m.
Stem solitary from a very
thick, stout rhizome.
Lower yellow rays 0-3.

Chihuahua, Mexico

Senecio hartwegii Benth.

[illegible]
Chihuahua. Mexico.
[illegible] place as 11716. —
Stems ascending on a
short [illegible]. Heads
yellow, rays mostly 13,
14-17 mm long. Pappus none.

Verbesina longifolia A. Gray

[illegible] 25 Sept. 1912
Chihuahua, Mexico.
In open rocky (limestone)
pine-oak woods in the
Tarahumara section of the
Sierra Madre Occidental,
[illegible] south
west of Tomochic. Elev.
just under 2100 m.
Fibrous-rooted perennial from
a subterranean crown.
Stems solitary or 2-together
(the crown producing offsets).
Flowers lavender-pink,
3-9 per head, often 7. Pappus of 5
bristles alternating with 5
short scales, or of 10
awnless scales.

1715 [illegible]

Carphochaete pringlei ✓
(S. Wats.) Grashoff

[illegible] pringlei (O)

[illegible] 25 September 1911.
Chihuahua, Mexico, Bonny
(Chapultepec) open places in
pine-oak belt in the
Tarahumare country of the
Sierra Madre Occidental,
[illegible] neighborhood of Torochi. Shrub from
some under 2 ft. in height
solitary or in clusters
[illegible] from woody base
leaves flowers [illegible]
Flowers 5 p. head
[illegible] appears of 5
bristles alternating
with 5 chaff scales.
Achenes with 5 rib-angles
Stevia viscida H.B.K.

[illegible]

1970 - 25 Sept. 1970.
Chihuahua, Mexico. Rocky
(rhyolitic) outcrops in
pine-oak forest. . .
as in 1969. Stems tall,
clustered on a woody
caudex with 1- several
long roots. Heads yellow.
rays 8-12, 5-10 mm long, neutral
Achenes compressed-quad-
rangular, hairy, not
winged, broadly obconic
ed radially beyond the
small, lacerate-coroneform
pappus.

Aspilia sp.

[illegible] 25 Sept. [illegible]
Cebuchua. Mexico.
Land plants [illegible].
Stem weak, scented
arising from cluster
of tuberous thickened roots,
heads yellow. Rays 13
ca. 10-13 mm long, ribbed
strongly flattened,
winged especially on the
[illegible] edge, the 2 margins
each opening into a
prominent awn-scale.

Lasianthaea podocephala
(A. Gray) K. Becker

11702. 26 Sept. 1911.
Chihuahua, Mexico. In
gravelly soil in thorn-scrub
desert ca 7 km. north of
Samargo
Elev. ca 1300 m.
Much branched shrub
up to about 2 m. tall.
Bad-yellow ray (?) 11-15 (16),
6-7 mm long. Achenes
radially compressed,
wing-margined, the
wing rounded auriculate
at the summit. Pappus
pale of long bristles
distinct from the wings,
and some intermediate short scales.
Zexmenia brevifolia A. Gray

[illegible] Feb. [illegible] 1900,
Chihuahua, Mexico, Lower
[illegible] altitude
[illegible] plants
[illegible] only
[illegible] perennial
but others [illegible]
by [illegible]
[illegible] (?)
6–11 mm long, [illegible]
[illegible]
[illegible]

Bahia absinthifolia Benth.

Compositae (?)

11725. 26 Sept 1880.
Chihuahua Mexico, Lemmon
[illegible] 11125. [illegible]
[illegible] Herb. yellow.
[illegible] (?) 3, 5 [illegible]

Pectis pringlei Fern.

Pectis (5)

[illegible]

Drainage, Alaska.

Southern coast and Prince William sound, [illegible]

Copper at Ellis creek station, [illegible] [illegible] [illegible]

bifid. Central flowers 1-5, more nearly equally bilabiate, with recurved lips.
All flowers perfect.

Trixis californica Kellogg
var. californica

(8)

11722 22 Sept. 1950
Aguas Calientes, Mexico
In open thorn scrub
mainly Acacia and Opuntia
on rhyolitic stony
substrate c. 20 km.
north of Aguas Calientes
Elev. ca 2100-2200 m.
Shrubs 2-5 dm. tall.
Flowers yellow (15-)
18-22.

Haplopappus venetus (H.B.K.)
Blake
var. venetus

Haplopappus (6)

Note Mylo 11 1727,
and of printing
separately here.

11 T-S 6-Oct. 1980

A.C. & Jose Luis Villaseñor R. Rios. Mexico, State of Mexico

In fine volcanic sand among black grasses (Festuca) at the upper limit of an open forest of Pinus hartwegii at the north base of the cone of Popocatepetl Volcan Popocatepetl. Elev. ca. 3900 m. Shrubs upto about 1 m. high. Heads yellow Rays 21, 12-17 mm long, 4-5 mm wide.

Senecio calcarius H.B.K.

Senecio (11) [illegible]

1172 9 - 6 Oct. 1980.
A.C. + Jose Luis Villaseñor
Rios. ~~Mexico~~ State of Mexico.
on the north side of
volcanic cliffs just
above the upper limit of
the forest (Pinus hart-
wegii) at the north
base of the cone of
Volcan Popocatepetl.
Elev. ca. 3400 m. Rays
white, 90-93 on 3 heads.

Achaetogeron Forreri G.

Achaetogeron (4)

11750 6 Oct. 1980.
M.A.C. & Jose Luis
Villaseñor Rios. Mexico,
state of Mexico. Same
plant as 11729. Bracts
brownish.

Gnaphalium vulcanicum
I.M. Johnston

Gnaphalium (3)

[illegible] 11 [illegible], 1980
Mexico, State of Mexico

On open rocky, gravelly slopes in the vicinity of Nevado de Toluca. Elev. ca. 4200 m.
Forms colonial forming cushions up to several dm. wide. Rhizoids ~~[illegible]~~ Rays tri-, di-, or [illegible] 8.

Lorein

(1731) 6 October 1930.
Mexico, state of Mexico.
In a moist swale in
a meadow (Festuca?)
and scattered pine
woodland, ca. 1 km west of
el Paso de Cortes,
between Volcan
Iztaccihuatl and
Popocatepetl. Elev. ca.
3700 m. Plants annualy
the larger ones with
prostate stems, the smaller
ones more erect. Heads yellow.
Rays 5 (-7), 8-10 mm long.
6-8 mm wide.
Bidens anthemoides (DC.) Sherff

Coreopsis (?)

11732. 11 Oct. 1910.
Mexico, Valle of Mexico.

Openly, gravelly slopes within the crater of Nevado de Toluca. Alt. c. 4200 m.
Plants colonial forming large masses 3 meters in diameter. Heads yellow, rays typically 13, some times only 8, mostly 12-18 mm long and 3-4 mm wide.

Senecio procumbens H.B.K.

Senecio

Castilleja tolucensis
H.B.K.
det. N.H. Holmgren ✓

Castilleja (3)

Note photos 6 + 7.

Pure stand of Pinus hartwegii and Festuca at 3900 m. on the slopes of Nevado de Toluca

11734 - 12 October, 1980
Mexico, State of Mexico
In open pine woods on
the north slope of the
Nevado de Toluca,
Elev. ca. 3900 m.
Stoloniferous perennial
from a fibrous-rooted
caudex or crown, stems
mostly 50-65, corolla
white, pappus rosy.

Eupatorium prunellifolium
Kth.

✓

---

Eupatorium oleifolium (9)

11735 12 Oct 1930.
Prairie State of Nevada
Brushy slope with
in pine with fewer aspen
and 12 km. [illegible] of
Coaldale Nevada. Alt.
ca 2300 m. Alender
Perennial. Flowered
[illegible] up to 31 cm
tall, erect, inspraug-
ling in the vegetation.
Head yellow. Rays mostly
6, except 13, mostly 7-9
mm long and 4-5 mm wide.
Disques of rather numerous
tasqiflowers.
Det. Erigeron glabrum B. L. Robinson
var. glabrum
R. Dayelmin

1731 - 12 October 1750.
Indian. Gulf of Mexico.
Same place as 11735
Corolla, salt shrubs up to c.
2 m. tall. Heads yellow.
Rays up to 13, often
irregularly lobed, c. 8
mm. long, 2.5-3.5 mm.
wide. Achenes flattened,
winged. Pappus a pair
of short, deciduous awns,
centripetal to the rays

Verbesina virgata Cav.

---

Verbesina virgata ?

11737, 13 October 1910
A. C. & Jose Luis Villaseñor
~~Mo~~ Mexico, State of Puebla,
Cerro Tecuani, on scattered pines
at the northwest base
of Pico de Orizaba
Elev. ca 7000 ft.
Plants with perennial
roots, 2 or 3 long,
more or less lit,
[illegible] with pink
beneath, bright yellow
flowering with #11732,
S. humilis,
a little differs in [illegible]
[illegible]
[illegible] and [illegible] flowering.
Sabazia multiradiata (Seaton) Longpre

Sabazia (8) Hebecarpha

1 11738 18 Oct 1950

Apt Jose Luis Villarreal
Campsis radicans 11737.
Annual bromeliad
Tagnet. Lagenaria
[illegible] 8,
[illegible] 8,
[illegible] pink
beneath, bicolor.
Growing with 11737,
[illegible]

S. multiradiata
which differs notably
in [illegible] being a climber
rather perennial and in
having fewer branches and
[illegible]

~~Sabazia humilis (H.B.K.) Cass.~~

annual tobacco (10)

4739 · 18 Oct. 1980
ACt Jose Luis Villaseñor.
Same plant as 11737.
Kapsulite. Disk yellow.

Aphanostephus ~~ramosissimus~~ DC.
~~var. pachyrrhizus (Shinners)~~
~~Birdsong~~

Aphanostephanus
pachyrrhizus Shinners

[illegible]

A.C. [illegible] Villarsia

[illegible] 2 [illegible]

[illegible] Tiarella

[illegible] Saxifraga

Rhabdadenia pilosa (Chod.) Fern.

[illegible] 120 m. sparingly

[illegible] 13 (-16), 40

to 2 m. long, [illegible]

---

Verbesina robinsonii (Klatt) Fern.

[illegible]

N E

[illegible]

[illegible]

[illegible]

43272

Zexmenia lantanifolia
(Schauer) Schultz-Bip.

11942 - 25 Oct 1980.
PC 1 first time flowering.
Camp plot 11 7 40.
Fibrous-rooted herbs
heavy-haired or roughed.
Heads yellow. Ray corollas
mostly 13, up to 22 mm
long.

Verbesina pedunculosa
(DC.) B.L. Robinson
(V. longipes; V. rothrockii)

11743 - 23 October 1910

A c f Jose Guadalupe Vera

Mexico. San Luis Potosí

Jacalones, a scrub edge

bordering the east

bank of the Sierra Madre

Oriental, on calcareous

substrate, ca 15 km.

northwest of Cárdenas,

along the road to Ciudad

del Maíz. Elev. ca 1200 m.

Shrub 1-3 m. to 4. Yellow

yellow flowers. Leaves

dark green, compound,

[illegible] very fine

but not wooly. Appears

[illegible] scale.

Flourensia laurifolia DC.

Flourensia laurifolia

Lawrence 1743

Weak shrub scrambling in other plants. Flowers white.

Eupatorium subintegrum
(Greene) B.L. Robinson

Eupatorium spinaciaefolium
(DC.) A. Gray

1/7/1976 - 26 [illegible] ED
BC & Jose Luis [illegible]
[illegible] San Luis Potosí

Among scattered oaks on
calcareous substrate along
the crest of the Sierra
Madre Oriental, near
a [illegible] station
overlooking [illegible] Potosí,
ca 33 km [illegible] San
Luis Potosí. Elevation ca 2600
m. Half shrubs or [illegible] herbs
0.5-1.5 m tall with clustered
stems, [illegible] yellow, [illegible]
[illegible]
[illegible]
[illegible]

Verbesina sororia A. Gray

[illegible] 8 sheets, 8 sheets 2

[illegible]
[illegible]
Sampson [illegible]
[illegible]
stems up to [illegible]
[illegible]
[illegible]

Piqueria serrata A. Gray

11748. 26 October, 1933.
At [illegible] José Luis [illegible].
Same place as 11746.
Soft half-shrubs, or nearly
herbaceous, about 1 m. tall.
Leaves mostly curled at the
margins, not flat. Heads yellow,
discoid, with 30[illegible]-50[illegible] [illegible]

Senecio angulifolius DC.

[illegible] - 26 Oct. 1980 - AC+
Jose Luis Villaseñor. Mexico.
San Luis Potosi. Rocky cuts along
~~the~~ the road in oak zone on the
west slope of the Sierra Madre
Oriental, not far below the ~~crest~~
crest, ca km. ~~southeast~~ of
San Luis Potosi. Limestone
substrate. Elevation a little
under 2400m. ~~Low, round~~ shrubs up to ca 2m.
~~3-5 dm tall~~ tall. Flowers faintly
pinkish, 5 per head.

Eupatorium lucidum Ortega

✓

163.7

Eupatorium (8)

11750 29 October, 1980
Mexico, state of Mexico.
A. C & Guillermo Ibarra M.
Volcanic sand ~~[illegible]~~
at the north base of the
cone of Volcan Popocatapetl.
Elev. 3900-4000 m.
Heads yellow. Rays
mostly 7-12.

Senecio procumbens H.B.K.

Senecio (1)

11751 - 29 oct. 1980
Mexico, state of Mexico.
AC & Guillermo Ibarra M.
In open, disturbed fir
forest on the north slope
of Volcan Popocatepetl.
Elev. ca 3300-3400 m.
Coarse perennial herbs
from a short, stout rhizome,
more or less colonial, up to
about 1.5 m. tall. Heads yellow.
Ligules mostly 8,
ca 13-17 mm long.
Senecio platanifolius Benth., vel
aff. (unusual in its
tall, leafy-stemmed habit)

Lemmon (6)

11752 - 29 Oct. 1980.
Mexico, state of Mexico.
AC & Guillermo Ibarra M.
Sample as 11751. Coarse perennial herb up to nearly 2 m. tall. Flowers white, about 50 per head.

Eupatorium pazcuarense HBK.

Eupatorium (6)

~~1770~~ 11753 - 29 Oct 1980
AC + Guillermo ~~AA~~
Ibarra M. Mexico, ~~state~~
of Mexico. same place
as il 751, but elev.
ca. 3300 m. shrubs
up to about 2 m. tall.
Rays 5-9, often 8,
rather light yellow,
6-7 mm long, 2 mm wide.

Senecio barba-johannis DC.

✓

rays often 8
3300 m
Verbesina (5)

11754 3 Nov. 1980
A.C. & Jose Luis Villaseñor
Sinaloa, Mexico
Rock (felsite) outcrops
in ~~tropical~~ subtropical
deciduous forest, on the
west slope of the Sierra
Madre occidental,
ca 50 km by road
northeast of Villa Union
Elev. ca. 700 m.
Shrub ca 2 m. tall
Heads discoid, orange, the
pales colored like the corolla.

---

Verbesina pauciflora Hemsley

---

Verbesina pauciflora

11755 - 3 Nov. 1900
A C & Jose Luis Villareñas
Sinaloa Mexico.
Grew along the
borders of the highway
- - - Otherwise as
11754. Rays 4 or 5,
faintly yellowish, almost
white, shortly bifid
at the tip.

Tragoceras zinnioides H.B.K.

Tragoceras (2)

11756 – 3 Nov. 1980
Sinaloa Mexico.
AC + José Luis Villaseñor
In thin, moist or wet
soil on north-facing
cliffs on the west slope
of the Sierra Madre
occidental, at El Contil,
ca 50 km northeast of
Villa Union. Elev.
ca. 700 m. Subtropical
Deciduous forest zone.
Plants annual. Rays 8(-10)!
pistillate but sterile.
white, ca 4 mm long
Disk yellow. Receptacle
Narrowly conic, with very slender,
flat paleas. Pappus in some plants none,
in others of alternating short, fimbriate
scales and longer, slender bristles.
~~achaetogerus~~ (O) (Hemsley)
Stenopappus filifolius

11757 3 Nov. 1980
A.C.A. Jose Luis Villaseñor
Sinaloa, Mexico. Under
oaks and on felsitic,
north-east-facing cliffs
at the lower edge of the
oak zone on the west slope
of the Sierra Madre Occidental
ca. 58 km northwest
of Villa Union.
Elevation ca. 1000 m.
Single-stemmed perennial
herbs with fibrous roots
from a short crown. Flowers
fragrant, white, 5–7
per head.

Decachaeta scabrella (B.L. Robinson)
R. M. King & H. Robinson

Eupatorium

11758 3 Nov. 1900
AC + Jose Luis Villaseñor.
Sinaloa., Mexico
In open pine-oak woods
along the west front of
the Sierra Madre Occidental.
ca. 60+ km. northwest of
Villa Union. Elev. ca
1200-1300 m. Annual.
Rays 3-5, short,
lavender-purple.

Cosmos exiguus A. Gray

Cosmos (10) 3-5

117559 3 Nov 1980
Ac Jose Luis Villaseñor,
Same plac as 11758.
Stems solitary from
a fibrous rooted crown,
Flowers white.

Stevia alatipes B.L. Robinson

Stevia (7)

11760 3 Mar. 1882.
Lamiplaceos 11758

Elephantopus mollis Wlk.

Elephantopus
~~[illegible]~~

11761, 3 Nov. 1980
A.C. + Jose Luis Villaseñor
Sinaloa, Mexico, Farm
plants 11758. Stem
solitary. Head yellow,
Rays 3-5, short.

Senecio hartwegii Benth.

3-5
Senecio 1 short!
1 short?

11762 - 3 Nov. 1980.

AC & Jose Luis Villaseñor. Sierra de, Mexico. Same places 11758. Stems several, wiry, loosely ascending from a woody, fibrous-rooted caudex, sparsely glutinous. Flowers about 20 per head, purple.

Eupatorium dryophyllum
B.L. Robinson

V

93 ~~Hypatorium~~ Eupatorium

11763 - 4 Nov 1900
ACF Jose Luis Villeseñor
Sinaloa, Mexico. Same
place as 11750, but
elev. 1300 m.
Half-shrubs or nearly
herbs, colonial by
creeping roots. Flowers
11-12 per head. Styles
distinctly yellow, but
corollas white or
somewhat reddish.

Ageratella microphylla
(Schultz-Bip.) A. Gray

Ageratilla
~~Corphochaete~~ (10)

11764. 4 Nov. 1980
AC & Jose Luis Villaseñor.
~~Sab~~
Sinaloa, Mexico. Moist, disturbed, brushy sites in the pine-oak zone on the west slope of the Sierra Madre occidental, ca. 70 km. ~~northw~~ northeast of Villa Union. Elev. ca 1200 m.
Slender shrubs ca 2 m. tall. Heads yellow. Rays 8-11, short. Pappus none.

Hymenostephium microcephalum (Less.) Blake

Hymenoclypterum (10)

11765 - 4 Nov. 1980.
AC + Josefina Villareñon
Same place as 11764.
Slender shrub 3-4m. tall.
Flowers white, ~~ca~~
19-24 per head.

Eupatorium collinum DC.

Eupatorium (5)

11766 — 4 Nov. 1980.

AC & Jose Luis Villaseñor
same place as 11764.
Brittle vine. Only
the female plant seen,
this with mostly 2
disk-flowers in the center.
Flowers white.

Archibaccharis hirtella
(DC.) Heering, sens. lat.

Archibaccharis

11767 4 Nov 1980.
AC + Jose Luis Villaseñor.
same place as 11764.
Slender shrub ca 2.5
m tall. Heads yellow
Rays ~~[illegible]~~ 8-11, ca. 5 mm
long.

Lasianthaea fruticosa (L.)
K. Becker
var. fasciculata (DC.) K. Becker

fasianthaea (3)

11768 - 4 Nov. 1900
AC + Jose Luis Villaseñor
~~Senate~~ Durango, Mexico.
Steep ~~slopes~~ slopes in
the pine-oak zone on dry
west side of the Sierra
Madre Occidental, ca 100
km (by road) northeast
of Villa Union. Elev.
ca. 2000 m. Shrubs
ca 2 m. tall. Flowers
mostly 11-17, white

Eupatorium bertholdii
Schultz-Bip.

11-15 Eupatorium bertholdii

11 7 67

2 Odpowiedź (3)

11769 - 4 Nov. 1980

AC + José Luis Villaseñor.

Durango, Mexico.
Same place as 11768.
Coarse shrubs 2-3 m.
tall. Rays mostly 8,
white, 12-18 mm long.
Disk yellow. Fruiting
pales light yellowish-
-green, or often distinctly
purple.

Montanoa leucantha (Lag.) Blake

subsp. arborescens
(DC.) Funk

9 ainel 4 shell, 4 shell 2

Montanoa

1770-6 Nov 1980.
Miraro, Baja California Sur,
AC & Jose Luis Villaseñor Rios.
Thorn-scrub desert along
the coast ca 13 km north
of La Paz. Shrubs mostly
1-1.5 m tall. Heads
yellow, discoid, with 5-6
flowers.

Haplopappus sonorensis
(A. Gray) Blake

photo 12
Haplopappus sonorensis (10)

7 Nov. 1980 #1-11.
Baja Calif. Sur.
N. central part of Baja
Calif. Sur., ca. 25-30 km
(18 miles) west of San Ignacio
Pachycereus pringlei
Yucca valida
Bursera microphylla
Bursera hindsiana
Jatropha cinerea
Opuntia - other cacti
Pedilanthus macrocarpus
(Euphorb.)
~~Parkinsonia~~
Cercidium canescens (?)
Fouquieria diguetii
Cercidium microphyllum
Larrea

11771 - 7 Nov. 1980
AC & Jose Luis Villaseñor Rios
Baja California Norte
Sandy wash in the
desert ca 15 km. south
of Rosalito
Clay ca. 100 m
Shrubs ca 1-1.5 m. tall

Hymenoclea monogyra Torr.
& A. Gray

(10)

Hymenoclea

11772 - 7 Nov. 1980

A C & José Luis Villaseñor Ríos
Baja California Norte
Rocky places in an arroyo
ca 15 km. south of Rosalito.
Elev. ca. 100 m. Shrubs
ca 1 m. tall. Heads
yellow. Rays typically
13, 10-14 mm long

Senecio douglasii DC.
var. monoensis (Greene) Jepson

arroyo
Senecio 1 m 13 mm

(10)

~~H773~~ 1779

8 Nov. desert hm.

s. 1

Idria

Fouq. splendens

Agave

Pachycereus pringlei

11773 - 8 Nov. 1980

AC & Jose Luis Villaseñor Rios

Baja California Norte

Sandy, granitic slopes above the streambed in an arroyo ca. 5 km. north of Cartavina. Shrubs mostly 1-1.5 m. tall. Heads yellow. Flowers 16-21 per head.

Elev. ca. 500 m.

Haplopappus venetus (H.B.K.) Blake

subsp. tridentatus (Greene) Hall

H. venetus (9) 1 of 1

11774 - 8 Nov. 1980
AC & Jose Luis Villaseñor Rios
Baja California Norte.
Moist, sandy soil along
a small stream in an
arroyo ca 5 km. north of
Cortavina. Elev. ca
500 m.
Shrubs 1-3 m. Tall.
Flowers white

Baccharis glutinosa Pers.

Baccharis (L) glutinosa

11775 – 8 Nov. 1980
A.C. & Jose Luis Villaseñor Rios

Baja California Norte.
Open basaltic slopes in the desert, ca 35 km. east of El Rosario. Elevation ca 550 m.
Shrubs mostly 0.5–1.5 m. tall.

Baccharis sarathroides
A. Gray

✓

280.4 phot. #2
Baccharis sarothroides
(6)

11776-8 Nov. 1980
AC & Jose Luis Villaseñor Rios
Baja California Norte.
Rather sandy soil
along a dry wash in the
desert ca 5 km. north of
El Rosario. Elevation
about 200 m.
Densely branched shrubs
forming mounds up to
1 m. tall and 2 m. wide.
Heads yellow, discoid,
with 15-22 flowers.

Haplopappus venetus (H.B.K.)
Blake

Haplopappus furfuraceus (Greene)
Hall

Haplopappus venetus?

SELL

ETE 11

8CL11

90 '43 '13

# 乞 11

for Ceará Ridge
See Bonatti
et al. JGR 3/1969
or 1970

for Walvis Ridge
See papers by
Berggren et al.
Also a Lamont PhD thesis.

I will send you
a list of additional
ones. [illegible]
Llanura del
Zaire.

Service Shoe

67F84186F 12EE

32.99

Dress shoe High top Shoe

T67H74901F 12EE

46.99

337-766-2[illegible]
C[illegible]

Nov. 9. A.M. Tijuana
95531
3300+ pesos for ticket
to Mexico for
José Luis Villarreal Reos

Nov 19. [illegible]
6 P.M.
102293

11770

T. Nov. S.M.

Desert, Baja Calif. Norte
96178

Nov. 1, 1960

Leave Mexicoloy, 94613

72 pesos tolf to Queretaro

40 pesos tolf to Irapuato

Nov 2,

Magdalena 95042

Nov. 3,

Mazatlan 95347

Nov. 4. Villa Blanca Hotel,

Sierra Madre 95423

Nov. 5. Mazatlan

95503

95561. leave Mazatlan

700 pesos ferry for car

800 pesos 2 tickets

Nov. 6 - Lesters of Baja Calif

95852

Am. #1 L.A. 11:53
10 Nov.

714-993-3587
John.
714-773-2246 -offic

94308 - 44 liters,
s 1 Quertaro.
21426 - cost 72 pesos
railway, toll from
Mexico City to Querétaro
27 Oct.
Mexico 94460
Nov. Medio 94467
93 Popo 94527
Mexico 94567

tolls
20 pesos

Lourdes Nieves

Gloria Andrade

Francisco Ramos

Pancho

Edy Cabrera

Carmen Hayala

Jose Luis Villaseñor Ríos

1. Plants are not animals
2. Secits
3. Mencots
4. Compuestas

LCLII

12362

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

19 Sept - Fern Star
89584

gas
13.4 gal at 89719. Provo
20 Sept. 89865 at Green R. Utah
89936. at Helper Utah
53.00
41.5 at Fabor
89973 - 15.2 gal at
Mauertle
90036 Cortez Colo.
90314 - at Alburq. 21 Sept.
20 gal at 90319
90603 in El Paso 22 Sept
18.1 gal
23 Sept. 90883 at Chihuahua

16 liters, 64 pesos at Carretera

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